

### **REMARKS**

Applicants hereby add new claims 81-85. Accordingly, claims 1-85 are pending in the present application.

Claim 71 is objected to. Claims 64 and 70 stand rejected under 35 USC 112, second paragraph, for indefiniteness. Claims 11-12, 17, 26-27, 31-34, 37, 44-48, 50, 52, 57, 59, 77-78 stand rejected under 35 USC 102(b) for anticipation by U.S. Patent No. 5,491,484 to Schuermann. Claims 1, 8, 38, 42-43, 73 and 79 stand rejected under 35 USC 103(a) for obviousness over Schuermann. Claims 2-3, 13, 18, 39 and 75 stand rejected under 35 USC 103(a) for obviousness over Schuermann in view of U.S. Patent No. 5,512,910 to Murakami et al. Claims 5-6, 14-15, 22, 24, 28-29, 40-41, 60 and 76 stand rejected under 35 USC 103(a) for obviousness over Schuermann in view of U.S. Patent No. 6,184,841 to Shober et al. Claims 19-20 and 23 stand rejected under 35 USC 103(a) for obviousness over Schuermann in view of Murakami and Shober. Claims 4, 58 and 64 stand rejected under 35 USC 103(a) for obviousness over Schuermann in view of U.S. Patent No. 5,649,296 to MacLellan et al. Claims 9-10, 16, 30, and 61 stand rejected under 35 USC 103(a) for obviousness over Schuermann in view of U.S. Patent No. 6,215,402 to Kodulkala et al. Claim 21 stands rejected under 35 USC 103(a) for obviousness over Schuermann in view of Murakami and Kodulkala. Claims 25 and 36 stand rejected under 35 USC 103(a) for obviousness over Schuermann in view of Shober et al. and Kodulkala et al. Claims 54-56 and 62 stand rejected under 35 USC 103(a) for obviousness over Schuermann in view of Shober and U.S. Patent No. 6,317,027 to Watkins. Claims 74 stands rejected under 35 USC 103(a) for obviousness over Schuermann in view of Watkins. Claims 65, 68-69 and 72 stand

under 35 USC 103(a) for obviousness over Schuermann in view of MacLellan and U.S. Patent No. 5,320,561 to Cook et al. Claim 70 stands rejected under 35 USC 103(a) for obviousness over Schuermann in view of Kodulkala et al., MacLellan et al. and Cook et al. Claim 66 stands rejected under 35 USC 103(a) for obviousness over Schuermann in view of MacLellan et al., Murakami and Cook et al. Claim 63 stands rejected under 35 USC 103(a) for obviousness over Schuermann in view of MacLellan et al., U. S. Patent No. 5,528,222 to Moskowitz et al., and Cook et al. Claim 67 stands rejected under 35 USC 103(a) for obviousness over Schuermann in view of Shober et al., MacLellan et al., Moskowitz et al., and Cook et al. Claim 71 stands rejected under 35 USC 103(a) for obviousness over Schuermann in view of Shober et al., Watkins, MacLellan et al., and Cook et al.

Applicants respectfully request reconsideration of the rejections.

Referring to the objections and the 112, rejections, Applicants have amended the claims as indicated herein and the amendments are believed to overcome the objections and rejections.

Referring to independent claim 1, the device comprises an *antenna simultaneously substantially tuned to first and second different frequency bands*. The Office alleges on page 5 that claim 1 is obvious. Applicants respectfully submit that claim 1 recites allowable subject matter. In particular, even if the antenna of Schuermann is "conventionally imprecise" as alleged by the Office, Schuermann is replete with teachings that the resonant circuit is only provided at a *single resonant frequency at any given moment in time*. For example, at col. 5, lines 40+, it is disclosed that the resonant frequency may be lowered by adding capacitance. At col. 5, lines 9+ it

is stated that the resonant frequency may change at different moments at time between a "normal frequency" and "a new resonant frequency." The teachings of Schuermann regarding providing the resonant circuit 130 with different resonant frequencies at different moments in time fails to teach or suggest the claimed *antenna simultaneously substantially tuned to first and second different frequency bands*. Applicants respectfully submit there is no suggestion or motivation to modify the Schuermann teachings clearly disclosing usage of a single resonant frequency at a given moment in time. Applicants respectfully submit that claim 1 recites limitations not disclosed nor suggested by the prior art and claim 1 is allowable for at least this reason.

The claims which depend from independent claim 1 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

For example, referring to claim 2, there is no evidence of any improvement resulting from the combination of reference teachings. As set forth below with respect to claim 18, the Office has failed to meet its burden of establishing proper motivation for a proper 103 rejection for at least this reason.

Referring to claim 4, there is no evidence that power is lacking to modify the teachings of Schuermann to include a power source. Schuermann already teaches a presumably operable device using energy stored in a capacitor for transmission operations. There is no motivation to combine the references and the rejection is improper for at least this reason.

Referring to claim 5, there is no evidence of any improvement to the arrangement of Schuermann resulting from the teachings of Shomber and the 103 rejection is improper for at least this reason.

Referring to claim 6, Schuermann uses energy stored within a capacitor for transmission operations and there is no teaching or suggestion of the claimed backscatter modulation. Claim 6 is allowable for at least this reason.

Referring to claim 7, Schuermann teaches an RF bus for providing internal communications and there is no evidence of any improvement resulting from the proposed modification to motivate one to combine the reference teachings. Claim 7 is allowable for at least this reason.

Referring to claim 10, there is no teaching in the art of the impedance matching method of Kodukala teaching the claimed *impedance reduction conductor*. Claim 10 is allowable for at least this reason.

Referring to claim 64, there is no evidence recited in support of the 103 rejection. In particular, the Office has cited no authority in support of the bald statements on pages 10-11 of the Action. Applicants respectfully submit there is no motivation to combine the reference teachings and claim 64 is allowable for at least this reason.

Referring to independent claim 11, the device comprises an *antenna being configured to simultaneously communicate at a plurality of substantially resonant frequencies*. At page 3 of the Office Action, the Examiner relies upon frequency modulation teachings using switch 200 and tuning/retuning network 238 in support of the rejection. The capacitors of network 238 are disclosed as being used to change the resonant frequency of the device 12 at different times. The frequency modulation of

switch 200 to transmit data changes the normal frequency of oscillation to a new resonant frequency. The changing of the frequencies at *different moments in time* using switch 200 or network 238 fails to teach or suggest the claimed antenna being configured to simultaneously communicate at a plurality of substantially resonant frequencies as defined in claim 11. Applicants respectfully submit claim 11 is allowable for at least this reason.

The claims which depend from independent claim 11 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to independent claim 18, Applicants respectfully submit to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See, e.g., MPEP §2143 (8th ed., rev. 3).

MPEP 2142 (8th ed., rev. 3) states that the concept of prima facie obviousness allocates who has the burden of going forward with production of evidence in each step of the examination process and the examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. The examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness, that is, the

initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. MPEP §2142 (8th ed., rev. 3).

Applicants respectfully submit the motivational rationale is insufficient in view of precedent set forth by the Federal Circuit, and accordingly, the Office has failed to meet their burden of establishing a proper prima facie 103 rejection.

The Federal Circuit discussed proper motivation In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002). The Court in In re Lee stated the factual inquiry whether to combine references must be thorough and searching. It must be based on objective evidence of record. The Court in In re Fritch, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992) stated motivation is provided only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. The Lee Court stated that the Examiner's conclusory statements in the Lee case do not adequately address the issue of motivation to combine. The Court additionally stated that the factual question of motivation is material to patentability and can not be resolved on subjective belief and unknown authority. The Court also stated that deficiencies of cited references cannot be remedied by general conclusions about what is basic knowledge or common sense but rather specific factual findings are needed. The Court further stated that the determination of patentability must be based on evidence. MPEP 2143.01 (8th ed., rev. 3) cites In re Lee and states the importance of relying upon objective evidence and making specific factual findings with respect to the motivation to combine references.

Referring to page 7 of the Action, the Office baldly alleges that the combination of Murakami is appropriate since low return loss is generally desired for an antenna in a

communication device for optimal signal, range or power considerations, especially for low power type transponders of Schuermann. Applicants respectfully submit the Office has failed to identify prior art teachings in support of motivation. In particular, there is no evidence that any improvements would result from the combination of prior art teachings to motivate one of skill in the art to combine the references as proposed by the Office. There is no evidence that return loss of the arrangement of Schuermann would be lowered as a result of the combination. Applicants respectfully submit that the Office has failed to establish a proper prima facie 103 rejection for at least the above-mentioned compelling reasons in view of the above-recited authority.

The claims which depend from independent claim 18 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to claim 22, there is insufficient motivation to combine the reference teachings and the 103 rejection of claim 22 is improper for at least this reason. There is no evidence of record to support the combination of Shober. In particular, there is no evidence of record to support the bald allegation on page 8 of the Office Action that the separate transmit/receive antennae design of Shober can be adopted into Schuermann to perform the same intended communication function. Also, Applicants respectfully submit the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. MPEP §2143.01III (8th ed., rev. 3) citing *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). The motivation for forming the combination must be

something other than hindsight reconstruction based on using Applicant's invention as a road map for such a combination. See, e.g., *In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990). The Office has failed to identify any improvement resulting from the proposed combination. Also, Schuermann discloses a highly integrated design using a single antenna for receive and transmit and there is no evidence of record of any improvement thereto from combining the teachings of Shober to motivate one to combine the reference teachings as proposed by the Office. Applicants respectfully assert the Office has failed to establish a proper prima facie 103 rejection and the rejection is improper for at least this reason.

The claims which depend from independent claim 22 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to independent claim 26, the radio frequency identification device comprises an antenna simultaneously substantially tuned to a plurality of frequencies at a moment in time. The modulation provided by switch 200 of Schuermann provides different oscillation frequencies at different moments in time per col. 5, lines 10+ and network 238 provides a different resonant frequency at different moments in time per col. 5, lines 40+. Limitations of claim 26 are not disclosed nor suggested by the prior art and claim 26 is allowable.

The claims which depend from independent claim 26 are in condition for allowance for the reasons discussed above with respect to the independent claim as



well as for their own respective features which are neither shown nor suggested by the cited art.

For example, Schuermann teaches control of the resonant frequency of device 12 by commands and fails to disclose or suggest the claimed antenna configured to communicate at the one frequency responsive to a frequency of communication of the interrogator. Claim 27 is allowable.

Referring to independent claim 31, the wireless communication system comprises a remote communication device configured to communicate wireless signals including at least one of receiving forward signals and outputting return signals at a plurality of frequencies using one antenna simultaneously substantially tuned to the frequencies. The modulation provided by switch 200 of Schuermann provides a different oscillation frequency at different moments in time per col. 5, lines 10+ and network 238 provides a different resonant frequency at different moments in time per col. 5, lines 40+. The above-recited limitations of claim 31 are not disclosed nor suggested by the prior art and claim 31 is allowable.

The claims which depend from independent claim 31 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to independent claim 38, the method recites providing a remote communication device having an antenna simultaneously substantially tuned to first and second different frequency bands. The modulation provided by switch 200 of Schuermann provides a different oscillation frequency at different moments in time per

col. 5, lines 10+ and network 238 provides a different resonant frequency at different moments in time per col. 5, lines 40+. The above-recited limitations of claim 38 are not disclosed nor suggested by the prior art and claim 38 is allowable.

The claims which depend from independent claim 38 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to claim 69, Schuermann fails to disclose a power source and there is no motivation to modify Schuermann to arrive at the claimed method defining tuning the antenna to one of the first and second frequency bands using a power source as claimed. Claim 69 is allowable.

Referring to independent claim 44, the method comprises providing a remote communication device having an antenna configured to simultaneously communicate at a plurality of resonant frequencies. The antenna of Schuermann is disclosed at resonating at a single resonant frequency at any given moment in time. The resonant frequency of Schuermann may be changed at different moments in time using switch 200 or network 238 but the changes at different moments in time fails to teach or suggest the above-recited limitations of claim 44. Limitations of claim 44 are not disclosed nor suggested by the prior art and claim 44 is allowable.

The claims which depend from independent claim 44 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to claim 70, there is no suggestion to tune the antenna to one of the frequencies using a power source and an impedance reduction conductor as claimed. Claim 70 is allowable for at least this reason.

Referring to independent claim 50, the method comprises providing a radio frequency identification device configured to communicate wireless signals at a plurality of frequencies using one antenna simultaneously substantially tuned to the frequencies. The antenna of Schuermann is disclosed at resonating at a single resonant frequency at any given moment in time. The resonant frequency of Schuermann may be changed at different moments in time using switch 200 or network 238 but the changes at different moments in time fails to teach or suggest the above-recited limitations of claim 50. Limitations of claim 50 are not disclosed nor suggested by the prior art and claim 50 is allowable.

The claims which depend from independent claim 50 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to claim 54, the changing of frequency of transmitted signals of Schuermann using switch 200 or the change of the resonant frequency using network 238 of Schuermann fail to disclose or suggest the claimed receiving the forward link signal using the antenna substantially tuned to a plurality of frequencies as positively defined in claim 54. There is no motivation to combine the teachings of Watkins with the teachings of Schuermann and the Office has failed to establish a proper 103 rejection for at least this reason. The Office cites no evidence in support of the rejection

on page 13. In particular, the Office recites no evidence in support of the allegation that the teachings of Watkins may be combined with Schuermann to form an operable device or that any improvement results from the combination to motivate to combine the reference teachings. There is no evidence that the changing of resonant frequency teachings of Schuermann would be improved by the combination with Watkins. In addition, the teachings of Watkins are redundant to the changing frequency teachings of Schuermann. Applicants respectfully submit there is no motivation to combine the reference teachings and the 103 rejection is improper.

The claims which depend from independent claim 54 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to claim 57, the method of forming comprises substantially tuning the at least one antenna to simultaneously communicate at a plurality of frequencies. Schuermann teaches modifying a resonant frequency at different moments in time which fails to disclose the claimed substantially tuning of claim 57. Positively recited limitations of claim 57 are not disclosed nor suggested by the prior art and claim 57 is allowable for at least this reason.

The claims which depend from independent claim 57 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to claim 62, the communication method recites outputting a continuous wave signal using an interrogator and modulating the continuous wave signal according to the return signal which are not disclosed nor suggested by the prior art. In particular, Schuermann at col. 5, lines 4 explicitly discloses providing a direct current from capacitor 136 through the coil thus providing energy to the resonant circuit maintaining a carrier wave oscillation in the resonant circuit 130. The explicit teachings of Schuermann are void of any continuous wave teachings or modulation thereof and such an interpretation by the Office is directly contrary to the explicit disclosure of Schuermann using energy stored within a capacitor. Further, Applicants have electronically searched Schuermann and failed to uncover any reference to "continuous wave." Applicants respectfully submit the 103 rejection is improper for at least these compelling reasons.

Support for the amendments and new claims may be found in at least one illustrative embodiment of Fig. 4 and the associated teachings of the specification.

The Examiner is requested to phone the undersigned if the Examiner believes such would facilitate prosecution of the present application. The undersigned is available for telephone consultation at any time during normal business hours (Pacific Time Zone).

Respectfully submitted,

Dated: 10/2/06

By: 

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